Prepared for

DTE Energy
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2021 ANNUAL INSPECTION REPORT
RANGE ROAD LANDFILL
ASH DISPOSAL FACILITY

China Township, St. Clair County, Michigan

Prepared by

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1. INTRODUCTION

1.1 Overview

This 2021 Annual Inspection Report (AIR) was prepared by Geosyntec Consultants (Geosyntec) to provide the results of the annual inspection of the coal combustion residuals (CCR) Range Road Ash Disposal Facility (Landfill) located in China Township, St. Clair County, Michigan. The annual inspection was prepared to comply with United States Environmental Protection Agency (USEPA) Coal Combustion Residuals Rule (CCR Rule) published on April 17, 2015 (40 CFR 257.84). Under the CCR Rule, the Landfill is an "existing landfill" per 40 CFR 257.53 and must be inspected by a qualified professional engineer on a periodic basis, not to exceed one year.

The Landfill is located approximately one mile west of the St. Clair River between Lake Huron and Lake St. Clair. The Landfill is licensed by the Michigan Department of Environment, Great Lakes, and Energy (EGLE), formerly the Michigan Department of Environmental Quality (MDEQ), as a Coal Ash Landfill. The property encompasses 514 acres of which 446 are designated for landfill development. The EGLE Facility ID Number is 392562 and License Number 9603.

Filling operations at the site began in the 1950s and the current Operating License issued to DTE Electric Company (DTE) and defined as Number 9603 supersedes and replaces the previous license (#9395). The Landfill has had an operating license since 1966. During 2021 the Landfill accepted bottom ash, fly ash, and waste coal from the St. Clair and Belle River Power Plants. The Marysville Power Plant is included in the current license but has been decommissioned and no longer sends ash to the landfill. The Harbor Beach Power Plant is no longer operating but is transferring ash to the Landfill in accordance with the Harbor Beach Power Plant closure project.

The Landfill has multiple operating and planned phases defined by work areas as discussed in the Landfill Development Plan, design drawings, and draft drawings and memorandums on RRLF Waste Filling Sequence. Currently nine work areas are certified closed and three areas are active. Areas D3, G2 and F3/D3 are active as identified in Figure 1. For construction purposes, Area G2 has been subdivided into three phases. Area G2 Phases I and II have been approved for waste placement while Phase III is still under base liner construction. Area E was not included in a current waste filling sequence overall site plan (Draft September 26, 2017), and may not be needed depending on actual future volumes of CCR disposed of during the life of the plants. However, it is still identified in the current Operating License Number 9603, Dated May 15, 2020.

1.2 Purpose

The purpose of the inspection under the CCR Rule [40 CFR 257.84(b)(1)] is:

> "…to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. The inspection must, at a minimum, include:
>
> (i) A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., the results of inspection by a qualified person, and results of previous annual inspections); and
>
> (ii) A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit."

This is accomplished through periodic visual inspection (and photo-documentation) of the Landfill, review of construction certification documentation, review of available operating records, and review of instrumentation monitoring data and evaluations intended to detect signs of instability.

1.3 Report Organization

The remainder of this report is organized as follows:

- Section 2 – Review of available information: summarizes various historical documents that were reviewed as part of this inspection
- Section 3 - Facility Description: provides information about the facility
- Section 4 – Visual Inspection Results: summarizes visual observations during inspections of the Landfill
- Section 5 – Instrumentation Monitoring: discusses the instrumentation and monitoring program
- Section 6 – Operation Activities: describes the operations organization and activities
- Section 7 – Evaluation: evaluates the results of the annual inspection
- Section 8 – Conclusions: provides the overall conclusions of the annual inspection

1.4 Terms of Reference

The annual visual inspection was performed by Mr. Daniel G. Bodine, P.E. of Geosyntec whose qualifications as a "qualified professional engineer" under the CCR Rule are presented in Appendix A. DTE's "qualified person" accompanied Mr. Bodine.

This report was prepared by Mr. Daniel G. Bodine, P.E. of Geosyntec. The senior review was completed by Mr. John Seymour, P.E., of Geosyntec. He is a qualified professional engineer per the requirements of §257.53 of the CCR Rule.

2. REVIEW OF AVAILABLE INFORMATION

Geosyntec reviewed the documents listed in Table 1 for the 2021 annual inspection. Geosyntec is not responsible for the accuracy of the documents reviewed that have been prepared by others and has prepared this inspection report based on good engineering judgement and data review. References to TRC refer to TRC Environmental Corporation, NTH to NTH Consultants, Ltd., AECOM to AECOM and Headwaters to Headwaters Plant Services, a division of Headwaters Inc. Headwaters Inc. has been acquired by Boral. As such, forms are being used with both names.

Table 1 Available Information Reviewed for the 2021 Annual Inspection

Title	Prepared by	Month and Year	Content with 2021 Update Status
2019 Annual Inspection Report - Range Road Landfill Ash Disposal Facility	Geosyntec Consultants	January 2020	Results of 2019 RRLF Inspection Report on Review of Documents and Files Related to the Operating Record and Conducting a Visual Site Inspection of the Facility.
Landfill Development Plan with Plan Sheets	TRC	Final November 2013	Overall Development Plan for Landfill Including Design, Construction, Surface Water Management, Operation, Monitoring and Site Closure. The 2013 Plan Remains Unchanged for the 2021 Inspection.
Range Road Solid Waste Disposal Area Operating License Renewal Application	DTE	April 2019	Operating License Renewal Application for the Range Road Ash Disposal Facility. Not Reviewed for the 2020 Inspection as an Operating License Renewal. See Below.
Range Road Ash Disposal Operating Number and License Facility No. 392562 License No. 9603	EGLE	May 2020	New Solid Waste Disposal Area Operating License, Including Terms and Conditions. License is Active and Supersedes and Replaces the Previous Operating License Number 9395.
Construction Certification /Soil Verification (Area G2) Range Road Landfill	MDEQ	September 2015	MDEQ Authorization for Waste Placement in Area G2 Northern Portion (Phase 1). Waste Placement in Area G2 Phase 1 was Active During 2021 Inspection.

Title	Prepared by	Month and Year	Content with 2021 Update Status
2019 Site Plan Figure 1 of DTE Range Road Operating License Number 9603.	TRC & Part of Operating License Application	Figure Date April 2019	Landfill Area Site Plan Showing Locations, Designations, Status and Phasing Legend. Used as Figure 1 in Geosyntec's 2021 Annual Inspection Report.
DTE Energy Company RRLF Area G2 Phase II Base Liner Draft Construction Plans	NTH	March 2018	Area G2 Phase 2 Base Liner Construction Plans-No Change Reported for 2021.
DTE Range Road Waste Filling Sequence with RRLF Estimated Life Expectancy and Capacity Summary	NTH	April 2018	Ash Volumes & Estimated Fill Volumes for Closure for Areas G2 Phases I, II & III, and Area F3/D3. Estimated Dates for Closure Start Given. No Change Reported for 2021.
Certification of Base Liner Grades (Area G2-13.1 Acres) DEQ Review Letter	State of Michigan DEQ	September 2018	DEQ's Review Indicating Certification is Consistent with the Requirements of Part 115. This is G2 Phase II Area Reported as 13 Ac in Current Operating Permit.
Soil Erosion and Sedimentation Control Permit No. SE2017-41	St. Clair County Health Department	April 2017	Permit Issued April 10, 2017 and Expires April 10, 2019. Activity Associated with Final Cover Construction and Installation of Landfill Cap of Approximately 18 Acres and Borrow Pit of 14 Acres. County 2020 Update: Inspector Visited Site and Permit was Closed Out without Issue.
NPDES Permit No. MIR11436	State of Michigan DEQ	June 2017	Permit Authorizing Discharge of Storm Water from Construction Activities at DECO-Belle River Pit (Site Name). Permit has been Closed Out 4-10-19.
NPDES Permit No. MI0038172	State of Michigan DEQ	October 2018	Permit for discharge from the Belle River Power Plant and Blue Waters Energy Center
Surface Water Flow Figure 2 (Working Copy)	TRC	December 2015	Plan of Ditch and Surface Flow Directions, Staff Gauge & Piezometer Locations. Copy used as Reference for Ditch & Surface Flow Locations in this report.

Title	Prepared by	Month and Year	Content with 2021 Update Status
Closure Plan for Existing CCR Unit 40CFR 257.102 (b)	AECOM	October 2016	Closure Plan Description, Inventory and Area Estimates, Schedule and PE Certification. Plan Remains Unchanged.
Post Closure Plan for Existing CCR Unit 40CFR 257.104	AECOM	October 2016	Post Closure Plan Description, Monitoring & Maintenance, Owner Operator Requirements and PE Certification. Plan Remains Unchanged.
Run-On/Run-Off Control System Plan for CCR Disposal Facility-Range Road	AECOM	October 2016	Plan to Address §257.81(c) of the USEPA CCR Final Rule. Appendices Included Historical Design Drawings and HydroCAD Analysis Output. Plan Remains Unchanged.
Groundwater Contour Maps March 2021 and May 2021 Provided in TRC 1st and 2nd Quarter Reports	TRC	April & July 2021	Groundwater Flow Directions and Elevations Outside & Inside of Slurry Wall. Perimeter Ditch Water Elevations at Staff Gauge Locations.
Area F3 Cap Material Borrow Areas	NTH	August 2016	Identifies Approx. Quantities of F3 Cap Topsoil, Clay and Inert Fill Required and Quantities of G3 Area Borrow Available.
Range Road Area F3 Final Closure – Existing Site Plan Draft - Dwg No. 6C664-158	DTE	February 2017	Drawing Showing Landfill Areas Including Future Portions of Area G that can be Used for Active Topsoil and Clay Borrow.
DTE Energy Company - Range Road Area F3 Final Closure - Drawings	NTH	March 2017	Bid Issue Cover Drawing Listing Sheet Index of 8 Drawings.
Range Road Landfill Coal Combustion Residuals Fugitive Dust Plan-Rev1	DTE	July 2019	Plan Certified by Professional Engineer to 40 CFR 257.80(b)(7) Revision 1. Plan was Updated in 2019.
DTE Electric Company – Range Road Landfill Coal Combustion Residuals Annual Fugitive Dust Reports	DTE	November 2020 & November 2021	Annual Fugitive Dust Control Report Pursuant to 40CFR 257.80(c). Descriptions and Actions Taken to Control CCR Fugitive Dust.

Title	Prepared by	Month and Year	Content with 2021 Update Status
CCR Groundwater Monitoring Well Locations (Working Copy)	TRC	April 2016	Plan Showing Name & Locations of Seven (7) Monitoring Wells Around Landfill.
Groundwater Potentiometric Elevation Summary Figure 7	TRC	October 2017	Groundwater Elevation Summary for the 7 Groundwater Monitoring Wells Numbers 16-01 thru 16-07.
1st & 2nd Quarter 2021 Groundwater Elevation Monitoring Tables 1 and 2 from Reports	TRC	April & July 2021	Summary Tables of Groundwater Well/Piezometer and Perimeter Ditch Staff Gauge Elevation Monitoring.
MDEQ WMRPD Q3 FY18 Inspection Report	Michigan DEQ	July 2018	2018 3rd Quarter Inspection Report
MDEQ WMRPD Q4 FY18 Inspection Report	Michigan DEQ	September 2018	2018 4th Quarter Inspection Report Recommend Removal of Top Cover Woody Vegetation. Per 2020 & 2021 inspection woody vegetation has been removed.
MDEQ/EGLE MMD Q3 FY20 & Q1 & Q3 FY21 Inspection Reports	Michigan DEQ	June 2020; January & May 2021	Facility in Compliance Reported.
DTE 2018 1st, 2nd, 3rd and 4th Quarterly Comprehensive Inspection Log (s)	DTE	March, May, August and November, Respectively 2018	Inspection Condition and Notes: Final Cover for Areas, Surface Water Ditches & Signage.
DTE 2020 3rd & 4th and 2021 1st, 2nd, 3rd & 4th Quarterly Comprehensive Inspection Log (s)	DTE	July & October 2020; January, April, July & October 2021	Inspection Condition and Notes: Final Cover Capping for Area G2, Surface Water Ditches & Signage and Discussions on Final Cover Mowing.

Title	Prepared by	Month and Year	Content with 2021 Update Status
2020 & 2021 Selected Weekly General Inspection Log (s)	DTE	Weekly Logs March 29, 2020 thru June 1, 2020 and February 21, 2021 thru May 2, 2921	Inspection for General Site, Waste & Nuisance Control, AST Spill Cleanup, Final Cover, Leachate & Surface Water Control & Pump Operation. Viewed Requested Weekly Logs.
Environmental Outside Rounds Log Sheet (A Daily Inspection Log)	DTE	Not Viewed	Daily Plant Environmental Inspection Log Sheet. Record Unusual Conditions, Gate Conditions, Flow Meter Readings, etc.
Groundwater Monitoring System - Summary Report	TRC	October 2017	Summary Report Figure 2 Used for Identifying Monitoring Well Locations.
Mobil & Fixed System Equipment Training Record	Headwaters, Inc. now Boral	August 2017	Classroom, Field Discussion, Observation, Operation and Unassisted Operation Training Record for New Employee. No Updates Provided for 2019, 2020 or first part of 2021. DTE indicated not changes in spring 2021.
Landfill Contractor Construction Training Records	Headwaters, Inc. now Boral	None Provided	No New Training Records Provided for the 2021 Inspection.
Appendix D to ξ1910.134 (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard	Headwaters, Inc. now Boral	Sept. 9, 2017	Discussion of Respirator Use, Selection, Cleaning, Related Hazards and Respirator Labeling was Provided for the 2017 Inspection. No Updates for 2020 or 2021 through date of 2021 annual inspection.
Employee Acknowledgement of Receipt of Safety Consequence Policy	Headwaters, Inc. now Boral	Sept. 9, 2017	Employee Acknowledgement of Reading, Understanding of Policy and Safety Guidelines. Copy Applicable to New Employees for 2017. No Updates for 2020 or 2021 through date of 2021 annual inspection.

Copy of Construction Drawings for G2 Phase 2 Base Liner	NTH	April 23, 2018	Area G2 Phase 2 Base Line Construction Drawings. No Updates for 2020 or 2021 through date of 2021 inspection.
Partial Closure Certification (Area F3)	MDEQ	May 22, 2018	Approval Letter for Partial Closure. No Updates for 2020 or 2021.

3. FACILITY DESCRIPTION

3.1 Overall Site Description

The overall site facility property is composed of the 514 acres of which 446 are designated for landfill development. The Landfill work areas are currently divided into fourteen work areas, nine that have been identified as "Certified Closed", three identified as "Active" and two identified as "Unconstructed". The work areas are listed below in **Table 2** and shown in **Figure 1**. **Figure 1** is taken from the 2020 Site Plan provided in the Solid Waste Disposal Area Operating License effective April 22, 2019.

Table 2 Site Phasing Summary – 2019-2020

Area	Status	Size (Acres)	Comments
A	Closed	7	Certified Closed, May 17, 2002
B	Closed	102	Certified Closed prior to September 2, 1999
B1	Closed	9	Certified Closed prior to September 2, 1999
C	Closed	16	Cert. Report Approved August 25, 2009
D1	Closed	21	Cert. Report Approved August 25, 2009
D2	Closed	10	Cert. Report Approved August 25, 2009
D3	Active	3	Interim Cover Placed at Time of Inspection
E	Unconstructed	117	No Cell Construction or Waste Placed
F1	Closed	17	Cert. Report Approved January 4, 2010
F2	Closed	12	Cert. Report Approved February 28, 2013
F3	Closed	17	Closed Reported Certification Approval
F3/D3	Active	5	Active Per Operating License, April 2019
G1/G3	Unconstructed	56	No Cell Construction or Waste Placed 2019
G2	Active	54 **(Total Permitted)	
	G2 Phase 1	(Waste Placement In Progress)	
	G2 Phase 2	(Waste Placement In Progress)	
	G2 Phase 3	(Construction In Progress)	

** Acreage from DTE Renewal Permit Application

The Landfill includes perimeter ditches, roadways, a perimeter slurry wall, earth berms, a 10 Acre NPDES Stormwater Detention Basin (SDB) and basin pump house. The basin has also been referred to as the sedimentation basin in some of the reviewed documents and figures. The SDB is located in the southeast corner of the property; the slurry wall, reported to be approximately 10

to 15 ft deep, surrounds the entire landfill along the property perimeter. The perimeter ditch surrounds the entire Landfill connecting and draining to the SDB (Figure 2). The pump control areas for these systems and the SDB pumping system were observed during the 2021 annual inspection.

The Landfill is a dry-handled (conditioned) CCR landfill licensed by EGLE as a Coal Ash Landfill with maximum 4 horizontal (H) to 1 vertical (V) final cover side slopes and 3 H to 1 V or flatter interim cover slopes. The current revised estimated annual total CCR disposal rate is 160,000 in-place cubic yards/year (average) based on historical CCR production rates and calculations of volumes by NTH using aerial flyovers performed in 2019 and 2021. The currently permitted areas of the Landfill are expected to handle the anticipated volume of CCR through the year 2030, consistent with the Landfill's Closure Plan.

The Landfill has a compacted in place clay liner ranging from 86 to 188 feet thick and is present beneath the entire Landfill. A thin discontinuous near-surface sand seam is present beneath the north eastern portion of the landfill; however, a slurry wall and perimeter ditch system were designed and installed to prevent any off-site flow from the sand seam.

3.2 **Design**

The Landfill design and operation is summarized in the Landfill Development Plan, Remedial Action Plan, Run-on/Run-off Control System Plan and the Quarterly Monitoring Reports. The key components of the Landfill include:

- Perimeter slurry wall keyed into top of 70-foot thick subbase clay layer;
- Perimeter drainage ditch capturing surface water and near surface groundwater;
- 10-Acre SDB collecting ditch water and pumping to plant;
- Two off site groundwater capture systems collecting water in the shallow sand seam;
- Final Cover installation from top to bottom that includes:
    - 6-inch thick vegetated topsoil layer (erosion layer);
    - 24-inch thick infiltration layer (select clay layer with hydraulic conductivity, $k \leq 1x10^{-7}$ cm/sec);
    - Maximum 4H to 1V side slopes;

- Minimum 1% grade top of closed areas and minimum 2% grade for areas to be closed in the future, and
- Phasing plans and special conditions detailed in drawings, plans and license.

- Closure and Post Closure Plans

Landfill design and construction are supported by construction phasing plans, surface water management plans and details, site operation (waste placement) plans and details, and leachate and environmental monitoring plans and reporting. Additionally, landfill monitoring systems maintenance and inspection, and site closure and post closure plans with long term care procedures are covered.

3.3 Construction

The Landfill has been operating since the 1950s. The Landfill Operating License discusses the work areas (see Section 3.1), references design, construction and monitoring documents submitted by DTE and includes conditions and criteria required for the Landfill operation, phase construction and monitoring. A renewal permit, License Number 9603 effective May 15, 2020, was issued to DTE by the EGLE. Closure and Post Closure Plans in accordance with 40 CFR 257.102 (b) and 40 CFR 257.104, respectively, have been prepared with an operating record date of October 17, 2016. A permit for NPDES discharge of storm water has been issued.

The Landfill Development Plan discusses site operations in Section 4 of the plan. Included are discussions on dust control, noise control, odor control, and access and security requirements, among other operating aspects. CCR filling procedures and requirements for construction observation and documentation are also included in the development plan.

4. VISUAL INSPECTION RESULTS

The annual inspection on site was completed on April 19, 2021. The annual 2021 inspection log and photographs are presented in **Appendix B**.

In summary, no evidence of landfill instability, significant perimeter slope erosion or detrimental settlement was noted. The perimeter ditch, perimeter slurry wall, and pumping of water in the SDB appeared to be working as designed and in accordance with recognized and generally accepted good engineering standards.

The northwest groundwater capture system and collection has had its two pumps replaced in late 2017. The pumps are used to transfer the captured water to the perimeter ditch for gravity flow to the SDB. At the time of the inspection one pump was operating normally. One lens on the control panel was broken.

Specific results of the visual inspection are summarized below and in the **Appendix B Inspection Log**. Photographs are provided in **Appendix B**. The weather on the day of the inspection was partly cloudy to sunny with temperatures ranging from 50° F to a high of 65° F in early afternoon. Scattered showers had occurred at the end of the previous work week, but no rain fell during the inspection. Some minor tire rutting from previous travel was noted along the inspection road as shown in Photograph 21.

SDB: The SDB appeared in good condition. Basin slopes and intake screens are shown in Photographs 1, 2 and 4. The pump control panel is shown in Photograph 3. Pumps 1 and 2 were not running at the time of the inspection, but there was no indication of pumps taken out of service. The basin intake screen was unblocked as shown in Photograph 2.

Landfill Final Cover: Closed work area phase covers were intermittently inspected including slopes. Conditions appeared good considering agreements approved with EGLE allowing trees remaining along and on the downstream slope at the north end of the Landfill, predominately in historical Areas A and B. These slopes were observed from the perimeter toe and along the top of the landfill cover during a cover inspection on foot. The top cover appeared well vegetated with little or no new small woody vegetation noted that would require maintenance removal/cutting. Photographs 49 and 50 show typical cover surface conditions in Area B.

The closed and active areas locations are identified on **Figure 1** and listed in **Table 2**.

There were no observed areas of pooled water on the top cover from the recent rain.

The final cover swales, downslope drains (down-chutes) and downslope ditches were observed as part of the final cover inspection. All observed appeared in acceptable condition. However, the

large downslope riprapped drainage channel located at the west intersection of Areas F1 and F2 and shown in Photograph 27 continues to show some bottom/bedding area erosion exposing gully like soil rutting under the riprap. The voids between and under some of the riprap stones could possibly be filled with smaller bedding type stone as a repair. The original design was unclear as to the type of bedding that was provided. Photograph 28 was an attempt to show an example of the voids present. However, the DTE inspector did examine the area closely.

In conclusion, the top and final slopes of the closed landfill final cover areas appeared well vegetated and are consistent with recognized and generally accepted good engineering standards.

Active Area G2: Area G2 Waste Filling Sequence has been divided into Phase 1, Phase 2 and Phase 3 for purposes of liner construction and certification. The G2 Phase 1 area ties in with Area F2. As such the temporary clay covered slope over F2 CCR waste had been removed for reuse. Photograph 35 shows with some noticeable runoff erosion within the landfill present.

New or freshly conditioned CCR waste was observed in Area G2 Phase1 and Phase 2. At the time of the inspection there was hauling, and placement activities as shown in Photographs 31, 38, 41 and 44. Placement and compaction procedures of conditioned CCR closely follows the Ash Filling Procedures discussed in the Landfill Development Plan. Temporary active waste placement slopes shown in Photographs 29, 32 and 34 appeared stable and generally well graded.

Perimeter Ditch System: The Perimeter Ditch System is shown on **Figure 2**. Flow through the ditch system is maintained and monitored by DTE to ensure adequate flow to the SDB. Vegetation in the ditches is well established and is routinely maintained. Review of the DTE 2019 and 2020 weekly and Quarterly Inspection reports indicated that ditch vegetation maintenance was completed for several portions of the perimeter ditch alignment along the northeast, north, west and southwest sides of the Landfill and along the SDB perimeter slopes. Observations during the 2021 inspection indicated that the ditch cleaning and maintenance program is continuing. Requested 2021 weekly and quarterly inspection reports were reviewed. The SDB and perimeter ditch slopes that were cleared of excessive vegetation appeared stable and well maintained as shown in Photographs 4, 5, 6, 8, 9, 11, 12, 13, 14, 15, 17, 18, 19, 20, 26, 42, 43 and 52. Photographs 33, 34 and 41 show interior ditches that drained water to the permitter ditch system. Ditch maintenance schedule modifications are subject to the needs of the site.

A ditch staff gauge system is used to monitor water level in the perimeter ditch. Review of the monitoring summary tables prepared by TRC for the 1st and 2nd Quarters of 2021 were reviewed and confirmed that ditch flow directions were acceptable. Two staff gauge water level elevations (SG-11 and SG-8)) indicated that their water levels may be stagnate or not flowing in either ditch direction. This agreed with some visual observations suggesting flow was non-observant or temporarily stagnate. Review of the elevation data for the remaining gauges all indicated

acceptable flow directions. Photographs 6, 8, 9, 12, 13, 15, 17, 18, 19 and 20 show typical ditch conditions at various staff gauge and culvert locations.

The slurry wall is located outside of the perimeter ditch and along the property boundary. Many location markers remain identifying the below ground slurry wall location.

Operation Activities Including Waste Placement: The landfill operating contractor is Boral (formerly named Headwaters). The landfill field office was closed when checked, or no one present at the time a visit was made. However, field placement activities were ongoing.

DTE provides operation monitoring through daily log monitoring of pumping from the SDB (NPDES pond flow monitoring) and weekly and quarterly monitoring of check list items. SDB Pump operation and flow is inspected by DTE daily and weekly.

Record Keeping: At the start of the 2021 annual inspection, records of current DTE monitoring inspections and new or updated reports were discussed with the landfill engineer. Because of inside plant office visit restrictions due to Covid-19, no copies of records were available but monitoring data requested was later electronically transmitted and reviewed for this report.

The current operating license dated May 15, 2020 lists many documents that have been submitted to the EGLE by DTE as part of the landfill design, plan preparation, construction certification and documentation, surface and groundwater monitoring, and landfill operation. The records for the Landfill appear comprehensive.

5. INSTRUMENTATION MONITORING

5.1 Surface Water and Groundwater Collection

Surface water and groundwater monitoring are conducted under a monitoring plan approved by EGLE. The surface water that falls within the landfill waste areas and within the perimeter ditch system is collected by the ditch system and flows, for the most part by gravity, to the SDB, as shown in **Figure 2**. An exception to this is the perimeter ditch located at the northwest corner of the property where the ditch water is collected and pumped to a portion of the ditch on the north side which gravity drains to the SDB. The perimeter slurry wall installed along the property line and outside of the ditch and basin system supplements and supports surface water collection as well as contains and directs any near-surface groundwater to the perimeter ditch.

Monitoring of the ditch water collection is accomplished through ditch visual inspection and ditch slope and bottom maintenance, review of water elevations from a series of thirteen (13) staff gauges and implementation of EGLE approved monitoring plans. Reporting of the monitoring is summarized in tables prepared by TRC. Review of the ditch water levels for the staff gauges show that the water gradient flows to the SDB. The review is provided in report Section 7.3 on ditch maintenance.

The perimeter ditch also collects near-surface groundwater that occurs along the east side of the property where near-surface sand is located above the subsurface thick layer of clay. The slurry wall in that area, with the top elevation higher than the groundwater elevation, acts as a groundwater flow barrier and supports collection by the perimeter ditch.

5.2 Groundwater Elevations and Offsite Capture System Monitoring

Monitoring well and piezometer locations are shown on **Figure 2** and monitoring water depths and elevations summarized in tables prepared by TRC. Groundwater elevations and flow directions typically indicate that the site-wide slurry wall and perimeter ditch network continue to perform as designed to prevent shallow groundwater beneath the RRLF site from migrating off-site.

5.3 RRLF CCR Monitoring Wells

During the 2021 annual inspection locations of seven (7) groundwater monitoring wells were observed. Observations indicated that that the monitoring wells were well protected with casing caps or covers keyed and locked.

6. OPERATION ACTIVITIES

Operations are defined in Section 4 of the Landfill Development Plan. The following operation control measures are described in the plan:

1. Hours of Operation
2. Waste Types
3. Traffic Routing
4. Lines and Grades
5. Nuisance Control (includes Fugitive Dust Control)
6. Police and Fire Protection
7. Access Control
8. Inclement Weather Operations
9. Drainage and Erosion Control
10. Record Keeping
11. Personnel and Equipment
12. Ash Filling Procedures
13. Leachate Management
14. Environmental Monitoring

Engineering design and construction related to the Landfill design, waste type and volumes, subbase grades, site phasing, final cover, surface water management, construction observation and documentation, and final closure and long-term care are included in the Landfill Development Plan. The plan was written by DTE/TRC in November 2013 and contained the Landfill operating license valid at that time. The current Landfill operating license issued by EGLE is dated May 15, 2020.

In addition, the following plans and inspections are currently required by the CCR Rule:

- Weekly inspections by a qualified person,
- Dust control in accordance with a Fugitive Dust Control Plan,
- Preparation and Implementation of a Run-on/Run-off Control System Plan,
- Preparation of the Closure Plan for the Existing CCR Unit, and
- Preparation of the Post-Closure Plan for the Existing CCR Unit.

These plans were available for inspection during this or previous visits and are included in the project document file. The Annual Fugitive Dust Control Reports dated November 19, 2020 and November 19, 2021 were reviewed. There was one citizen complaint on March 16, 2021 which was responded to by DTE. DTE weekly inspection reports for the springs of 2020 and 2021 were also reviewed for this report.

6.1 **Observations**

It was identified that the overall intent of the Operations Plan was being followed. Documentation that the Operations Plan was being followed in a method "…to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards" in accordance with the CCR Rule.

Operating control measure items appeared to be compliant with the Landfill Development Plan. There is a full-time DTE guard shack or building near the entrance of the Landfill and the Landfill is surrounded by security fencing and locked gates.

7. EVALUATION

7.1 Design

The Landfill design was completed by TRC and is well documented in the references listed in the current Landfill Solid Waste Disposal Area Operating License, dated May 15, 2020, and the Landfill Development Plan, dated November 2013.

7.2 Construction

Construction of final cover Phase Work Areas is being well documented in area closure documentation reports by NTH. Construction certification or documentation reports or portions of those reports were viewed during the 2015 and 2016 annual inspection for Work Areas C, D1, D2, F1 and F2 and they were signed by a professional engineer licensed in Michigan. A partial closure certification letter for Area F3, dated May 22, 2018, was prepared by MDEQ. Clay for the capping was excavated as part of subgrade excavation within portions of Area G2. CCR hauling and placement was occurring on the date of the 2021 inspection. DTE indicated that the first partial area (Phase 1) of Area G2 will soon be ready for capping.

7.3 Maintenance

Maintenance of final cover vegetation and erosion control has been identified by the DTE qualified person as an ongoing activity based on results of weekly inspections. Quarterly Comprehensive Inspection Logs lists specific comments on the status, schedule and results of maintenance activities. These listed activities reviewed included pump operation and maintenance, closure cover construction, ditch repairs and vegetation clearing, and slope and cover vegetation maintenance. Many of the activities mentioned are necessary to maintain operation and consistent flow direction of water collected by the perimeter ditch.

Tables summarizing staff gauge water elevations recorded during the 1st and 2nd Quarter summary 2021, indicated that the ditch flow direction is again in agreement with the stated design and flow to the SDB.

Control of vegetation growth in the site ditches has been identified by DTE as a routine maintenance activity. Observations indicated that the perimeter ditch alignment is being cleared of excessive vegetation on a routine but as-needed schedule basis.

Results of this inspection indicates that the ditch maintenance program is progressing according to plans or ahead of schedule. Photographs of ditch maintenance results are provided in Appendix B and were discussed in Section 4.

7.4 Operations

7.4.1 Operations Plan

The Landfill Development Plan serves as DTE's main operations plan for the landfill. The plan has been discussed in previous AIRs and has again been reviewed as part of this AIR. The plan has not been revised. The landfill ash fill contractor, Boral, in 2018 made improvements in following the plan's CCR placement and compaction procedures and appears to be continuing in 2021 with the improved procedures.

Records by DTE, such as Landfill weekly inspection logs were provided as part of the annual inspection information. The inspection log forms were recently updated and are consistent with recognized and generally accepted good engineering standards.

7.4.2 Fugitive Dust Control

A Fugitive Dust Control Plan Rev 1, dated July 2019, was provided by DTE. Fugitive Dust Control is also discussed in the Landfill Development Plan. Annual Fugitive Dust Reports dated November 19, 2020 and November 19, 2021 were provided for review. The two reports summarized CCR fugitive dust control actions, listed citizen complaints, if any, and provided discussion of any corrective actions taken for the period November 2, 2019 through November 1, 2021. There was one citizen complaint which was addressed by DTE.

During the site inspection there were no observed dust clouds or active dust control activities. There were CCR hauling trucks or construction equipment operating. Rainfall had occurred the end of the previous week and the roads that the inspection team traveled were dust free. Basin water is typically used for dust control when needed and signs limiting the use of the water in areas near the construction entrances have been posted by DTE.

Dust control operations at the site are considered consistent with recognized and generally accepted good engineering standards.

7.4.3 Run-on and Run-off Control

Run-on and run-off control are maintained by final cover temporary or permanent berms, the perimeter ditch system, the offsite pumping systems and the SDB pump and discharge system. The Landfill Development Plan and the Run-on and Run-off Control System Plan have not been updated at the time of the 2021 inspection since they were issued in 2013 and 2016, respectively. As reported in the 2016 AIR, the Run-on and Run-off Control System Plan appears to be consistent with recognized and generally accepted good engineering standards in accordance with the requirements of 40 CFR 257.81(c).

7.4.4 Inspections

Weekly and quarterly inspections have been ongoing and documented by qualified persons. Inspections reviewed have been discussed and are consistent with recognized and generally accepted good engineering standards, based on available information.

7.4.5 Annual Visual Inspection

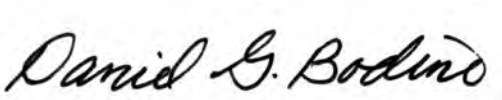
This annual visual inspection did not identify any evidence of structural weakness or instability. The perimeter ditch, perimeter slurry wall, offsite capture system pumping, and collection appeared to be working as designed and in accordance with recognized and generally accepted good engineering standards.

8. CONCLUSIONS AND CERTIFICATION

The annual visual inspection did not identify any evidence of structural weakness or instability.

Based on the annual inspection results and review of the available data, the Landfill was designed, constructed, operated and maintained in accordance with generally accepted good engineering standards.

Certified by:



_____Date __January 07, 2022_____

Daniel G. Bodine, P.E. - Michigan P.E. No. 6201051139
Senior Consultant

Plot Data
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TFebranz Plot Date: Thu Apr 11 08:24:00 2019
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Levels On: 1-63

Reference Files
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Ref. File 2 = J:\DTE\St Clair Co\320507\0000\RFB\xmrmt.dgn
Ref. File 3 = J:\DTE\St Clair Co\320507\0000\RFB\proposed.dgn
Ref. File 4 = J:\DTE\St Clair Co\320507\0000\RFB\k8x11bdr.dgn

Logical Names

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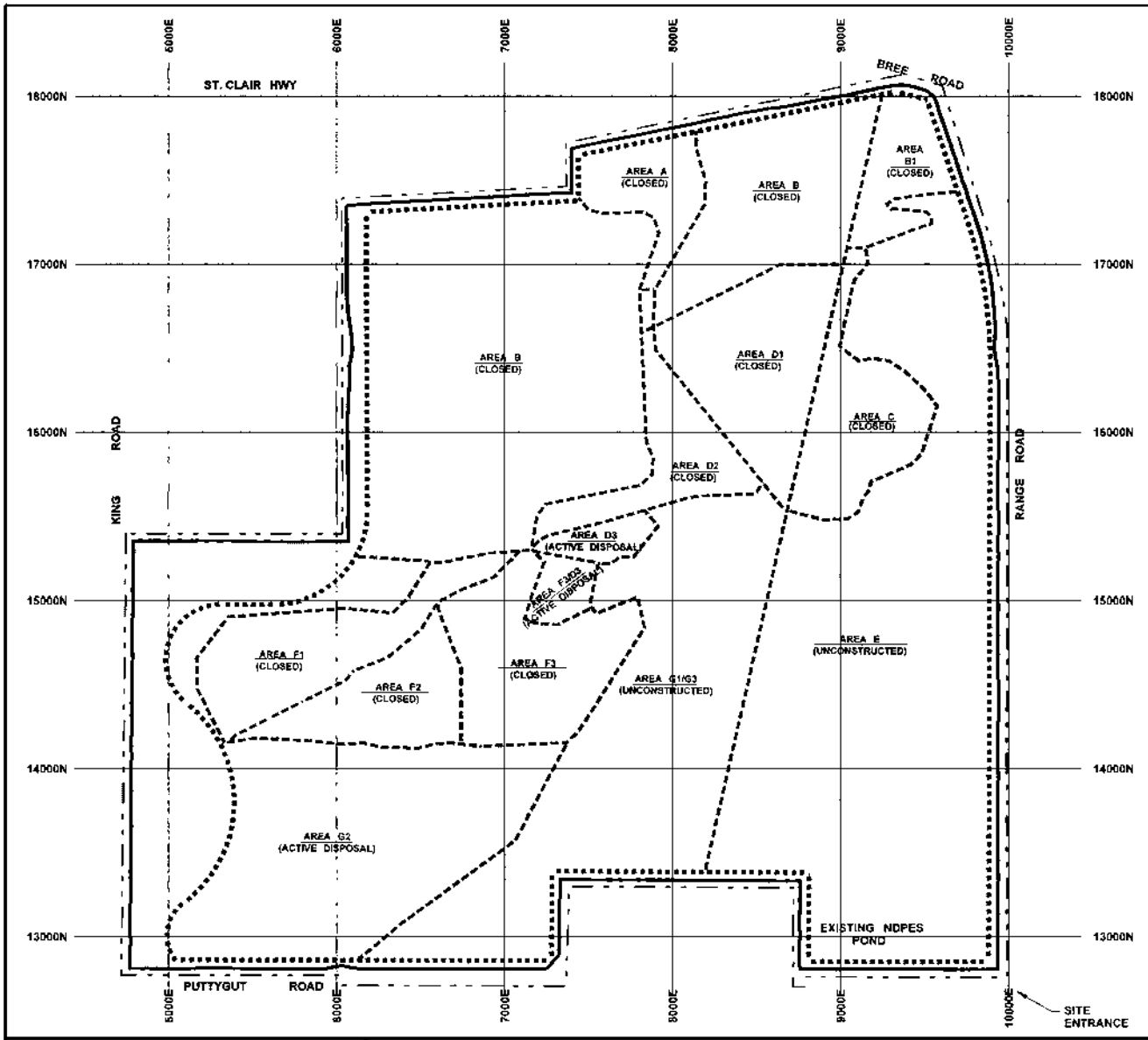
(2) 7-10,18,29,30
(3)
(4) 1-63



LEGEND

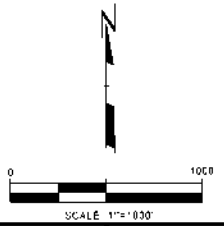
- PROPERTY BOUNDARY
- DESIGN LIMITS OF ASH FILL
- DISPOSAL AREA BOUNDARY
- SLURRY CUTOFF WALL
- AREA A — DISPOSAL AREA A

NOTES

1. BASE MAP DEVELOPED FROM AERIAL SURVEY PERFORMED BY KUCERA INTERNATIONAL, INC., WILLOUGHBY, OHIO. DATE FLOWN: 4/27/2013.
2. GRID SYSTEM IS ON-SITE GRID - BELLE RIVER PLANT/RANGE ROAD PROPERTY SYSTEM.

SITE PHASING LEGEND

Area	Status	Size (Acres)	Material Under Waste	Comments
A	Closed	7	Clay	Certified Closed May 17, 2002
B	Closed	122	Clay	Certified Closed prior to September 2, 1999
B1	Closed	5	Sand	Certified Closed prior to September 2, 1999
C	Closed	16	Sand	Certification Report Approved by MDEQ, August 25, 2005
D1	Closed (Interim cover on southern sideslopes)	21	Clay	Certification Report Approved by MDEQ, August 25, 2005
D2	Closed (Interim cover on southern sideslopes)	10	Clay	Certification Report Approved by MDEQ, August 25, 2005
F1	Closed	17	Clay	Certification Report Approved by MDEQ January 4, 2010
F2	Closed	12	Clay	Certification report approved by MDEQ February 28, 2013
F3	Closed	17	Clay	Certified Closed May 22, 2018
D3	Active Disposal	3	Clay	Interim Cover Area
F3/D3	Active Disposal	5	Clay	
G2	Active Disposal	54	Clay	
G1/G3	Unconstructed	56	Clay	
E	Unconstructed	117	Sand	Can be authorized to receive CI once a remediation plan is implemented



TRC

DTE ELECTRIC COMPANY
RANGE ROAD LANDFILL

2019 SITE PLAN

DRAWN BY:	TFiebranz
APPROVED BY:	V. BUENING
PROJECT NO.	320507.0000
FILE NO.	320507.0000.01.plt
DATE:	APRIL 2019

FIGURE 1

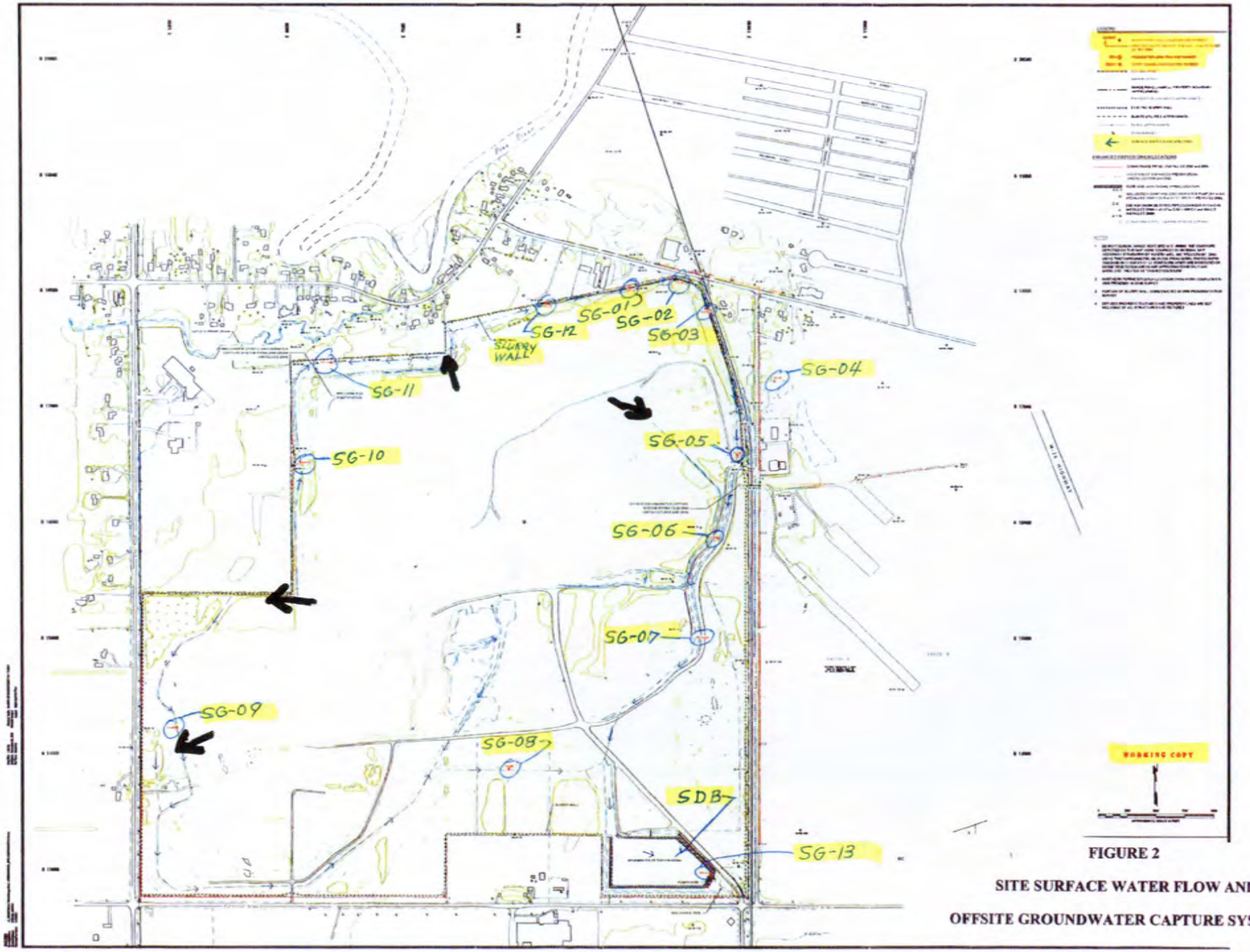


FIGURE 2

SITE SURFACE WATER FLOW AND

OFFSITE GROUNDWATER CAPTURE SYSTEMS

APPENDIX A

Resume of the Qualified Professional Engineer

Geosyntec
consultants

DANIEL G. BODINE, P.E

geotechnical and civil engineering
geo-environmental engineering
project management
litigation support
resident engineering
construction management

EDUCATION

M.S., Geotechnical Engineering, Rutgers University, 1973
B.S., Civil Engineering, Rutgers University, 1970
Continuing Education Seminars

PROFESSIONAL REGISTRATION

Illinois, P.E. Number 0062-047218
Ohio, P.E. Number E-61363
Nebraska, P.E. Number E-9478
Michigan, P.E. Number 6201051139
Indiana, P.E. Number 920347
South Carolina, P.E. Number 15628
Colorado, P.E. Number 47434

CAREER SUMMARY

Mr. Bodine has over 50 years of experience in all aspects of civil and environmental engineering. He has worked 13 years for a large AE firm in the civil, geotechnical and site development departments on fossil and nuclear power plant facilities and the remainder time with two major geotechnical and environmental consultants. He has supervised and coordinated fossil and nuclear power plant geotechnical site investigations, foundation and landfill design, construction and post construction activities. He has also performed geotechnical design and construction monitoring work for recent projects for private, industrial, oil and chemical industry, and municipal and government clients. These projects involve design and construction for deep foundations including all types of piles and caissons, several types of barrier walls, site dewatering, insitu solidification and stabilization, runoff collection and treatment basins and landfill liners and caps. He has worked on dam projects such as the Ludington Pump Storage Project, Center Hill Dam Foundation Remediation, AEP's Stingy Run and Amos Fly Ash Dams, CCR Ash Disposal Dike and Dam Inspections, and numerous other dam safety inspections for the power industry. He has worked with attorneys related to litigation/arbitration and expert witness support related to geotechnical engineering and construction claims. Specialties include barrier wall design and construction, insitu solidification/stabilization, deep foundation design and landfill design & construction including design/build and bid package preparation.

Mr. Bodine's experience on various projects has included the following:

Barrier Wall Technical Report, Confidential National Research Institute. Completed report summarizing approximately 10 types of barrier walls 60-ft deep based on comparisons of their design, constructability, and installation details. Provided construction and QC/QA cost estimates.

Casper Wyoming Barrier Wall, Wyoming DEQ, Casper, WY. Working for the department as a slurry wall specialist providing design and construction document review and comment and attended site review meetings. Barrier wall construction of Phase 1 was completed in 2018 with Phases 2 and 3 to follow. Site was location of former refinery and review and comments were well received by the lead oil company.

Boeing Design/Build Slurry Wall & Landfill Cap Expansion, Remedial Construction Services, Wichita, KS. Mr. Bodine was Geosyntec's lead technical engineer supervising the preparation of design and construction plans and specifications including technical reports and documents submitted to the KDEH. Served as the technical task manager for the construction QC/QA work including preparation of the construction completion report completed in August 2010. The slurry wall and landfill cap extension, located adjacent to the Arkansas River, surrounded a closed landfill and was constructed without opening the landfill clay cover. Monitoring well water level drawdown on the down-gradient side along the river was noted by owner to drop almost immediately after completion of construction. This has been verified 1 year later, except during periods of river flooding that raises water levels outside of the wall containment.

US Forestry Holden Mine Barrier Wall, U.S. Forestry, Chelan, WA. Working through USF Consultant, Hart Crowser, Mr. Bodine provided specialist consulting review for design and construction of deep 70-100 ft slag & Portland cement bentonite slurry wall located along river and tailings piles at a closed copper mine in middle of a national forest. Work included review of mix design and compatibility testing, construction procedures and quality control test results. Mr. Bodine provided onsite observation and review for US Forestry and their consultant. Field work was completed in 2015.

Ash Reservoir Dam Modification, AEP, Cheshire, OH. As part of the design and permitting work for the closure and capping of a large ash reservoir the 100 ft high dam is being modified by reducing the dam height and providing a new discharge spillway structure for safe discharge of the 100-year and PMF storm flows. Mr. Bodine is the Engineer of Record for the dam modification with construction with construction of a large concrete spillway and full dam and reservoir capping completed at the end of 2020.

Wood River Refinery Sludge Basin Closure, Shell Oil Products, USA, Wood River, IL. As PM and EOR completed an oil refinery engineering design, bid document preparation and construction engineering involving in-situ solidification and capping of

over 300,000 cubic yards of oily sludge for an in place RCRA closure of a 20-acre oil refinery sludge disposal basin located in Wood River, Il. This project is unique in that there is approximately 550,000 cubic yards of sludge in the basin and that the design, permitting and construction was successfully completed saving millions of dollars over alternative closures. Design involved detailed geotechnical settlement analyses of the soils and sludge. Closure construction was completed, and certification report issued to the client and IEPA. Mr. Bodine supervised the CQA monitoring and prepared and sealed the CQA certification report.

Steel Facility Landfill Cap & Tar Pond Solidification, Confidential Owner, NW IN,. Working for contractor provided CQA project management, site work and construction certification of an approximate 60-acre landfill containing two large tar ponds. Geosyntec performed onsite CQA observation, testing, documentation and preparation of the construction completion report including onsite testing of tar solidification /stabilization activities. Project substantially completed in 2014 with Construction Completion Report issued in early 2015. Report for the landfill closure was approved by agency without comment.

BP-Amoco Refinery Sludge Basin Closure, Amoco Corp., Whiting, IN. As EOR and lead engineer supervised design and prepared and evaluated construction bid documents for in-place closure of an oil refinery sludge disposal basin. Design included providing demolition of structural and mechanical equipment, slurry and grout cutoff wall containment, insitu solidification of the sludge, design of wells and pump control systems for surface water collection and as back-up for water level control beneath the solidified sludge. The design included a thicken RCRA type cap with HDPE and soil covers. Also managed CQA and resident engineer construction oversight for the project, including setup and operation of on-site project meetings and laboratory testing operations. The design and oversight included structural work (concrete, steel and asphalt), electrical and mechanical work (wiring, piping, pumps, motors, and controls in accordance with refinery standards) as well as geotechnical and environmental work. Closure of this project under jurisdiction of U.S. EPA Region 5 and IDEM was completed in July 1992 on schedule for Amoco Oil located in Whiting, Indiana. Test program and certification reports for these agencies were prepared under the direct supervision of Mr. Bodine. The thicken RCRA cap was designed, permitted and constructed to accommodate future structures on top of the landfill closure, prior to the widely-used Brownfield concept. Twenty-two years later new structures have been constructed and the new foundation settlement design remains consistent with the original design.

Bofors Nobel Superfund Site, PSDs, Muskegon, MI. Geosyntec PM and EOR responsible for design and management of barrier wall and chemical sludge lagoon cap for the Bofors-Nobel superfund project located near Muskegon, Mi. Work included

field and laboratory investigation work plan, 30%, 95% and 100% design, construction bid package preparation and construction and CQA documentation and performance of barrier wall onsite. Barrier wall construction was Phase 1 of the work and is 100% complete. The wall consists of a soil-bentonite (SB) slurry wall approximately 75 to 125 ft deep and 2000 ft long. Closure cap design and construction of 10 chemical sludge lagoons (portion of Phase 2 work) was completed in 2007. Mr. Bodine was the lead geotechnical engineer for the Phase 2 work, on the Parsons team. Other consulting team members provided team project management, conducted groundwater monitoring and treatment, designed and monitored construction of the treatment and diffuser wetlands, and phytoenhancement of the lagoon cover and surrounding area. Geosyntec assisted these team activities and provided geotechnical portions of the work.

Design & Construction of Permeable Reactive Barrier (PRB) Slurry Wall, Quantum Murray, LLC, Ontario, Canada. Worked as the contractor's slurry wall specialist and prepared contractor plans and technical memorandums for bench scale testing and mix design and construction quality control testing and monitoring procedures for a slurry wall that included design sheet pile control structures for the reactive material. This was for a funnel & gate PRB wall within soils and ground water impacted with radiation. Provided recommendations for onsite construction procedures and QC training of personnel performing slurry and soil-bentonite backfill mixing and testing. Project is completed, performing exceptionally well and is confidential.

Colorado Soil-Bentonite Slurry Wall Construction, Tri-Districts, Ft. Collins, CO. Responsible Project Manager and Lead Engineer for bid document preparation and construction of a 5400 ft long slurry wall around former sand, gravel and cobble pit. Project completed in September 2013 with both contractor construction and engineering oversight completed on schedule and under budget. A 90-day leakage test was performed by an independent consultant and exceeded all requirements by the state.

Gavin Power Plant Residual Waste Landfill Expansion, AEP, Cheshire, OH. Part of the project design team preparing a permit to install (PTI) package for the lateral and vertical expansion of a 58,000 cubic yards waste landfill. Performed design reviews of plans, drawings and specifications, including leachate treatment ponds and assisted in major field investigation program that had to be performed thru-out the winter months and during the holiday period. The PTI was approved and formal permit issued in early 2014. Construction packages for the landfill expansion were prepared and construction of Phases 1 and 2 have been completed. Additional construction phases are underway.

Detroit Edison Power Company Ash Basin Evaluation & Design Modifications, Monroe, MI. Performed dike inspection of large ash basin to assist in evaluation of a large number of shallow slope failures. Project work included prepared construction plans and specifications for repair and reconstruction of slopes and related drainage facilities. Provided quality construction expertise for the 2009, 2010 and 2011

construction phases, all now completed. Mr. Bodine consults on designs as needed with team members on other site projects for DTE.

Detroit Edison Power Company Ash Basin Drainage Ditch Evaluation & Design. Managed and performed design of a large drainage ditch which is part of the Range Road Landfill existing ash basin that involved culvert alternatives including a large diameter structural pipe arch. Project completed in 2010.

DTE Energy Range Road Landfill Annual Inspections, St. Clair, MI. Conducted field inspection and office file review under the CCR Rule 40 CFR 257.84(b)(1) for the Range Road 418-acre landfill. The annual inspections and reports were for years 2015, 2016, 2017,2018, 2019 and 2020.

American Electric Power Dam Inspections. Providing multi-year (1999-2001) independent annual dam safety inspections and reporting of dike and dam structures at 18 facilities for American Electric Power in the states of Indiana, Ohio, Kentucky, West Virginia and Virginia. Dams range from small dike containment structures to large high hazard classification dams. Internal inspections and repair recommendations for discharge pipes were also provided at 3 AEP facilities. Reports for the utility and state agencies were prepared for all facilities. Prior to this project Mr. Bodine performed dike and dam inspections of ash disposal and power plant lake facilities in the states of Illinois, Wisconsin, Indiana, Ohio, Kentucky, Colorado and Texas.

CCR Location Restriction and Groundwater Monitoring Network Reports. AEP, Ohio. Provided CCR facility evaluation and report preparation for Location Restriction Evaluation at two separate AEP plants. Assisted the Groundwater Monitoring Network report preparation and review for the same two plants.

CCR Alternative Source Demonstration (ASD) and Assessment Reports. Buckeye Power, Inc., Ohio. Part of Geosyntec's team in preparing ASD reports for an RSW landfill and assessment and monitoring report for a bottom ash disposal basin at Buckeye's Cardinal Plant. Geosyntec's ASDs monitoring work is ongoing at this plant site and other sites for other power clients.

Indianapolis Power & Light Ash Pond Dike Inspections, Indiana. Provided ash pond facility inspection in 2008 for three coal fired power plant sites. Prepared inspection report findings and recommendations for maintenance and for critical dike re-evaluations.

Sylvan Lake Dam Evaluation, RCCD***,*** Rome City, In. Performed dam and spillway inspections and report for 2004 through 2020 at Rome City, Indiana. In 2004 Geosyntec prepared a special dam evaluation report reviewing a critical Dam safety report prepared by U.S. Army Corps of Engineers. In 2007 consulted with dam owner during periods of very heavy rainfall concerning opening of emergency flood gate, however, it was not necessary to open the gate. Attended and took part in the

Emergency Action Plan table-top-exercise in 2007, 2011, 2016 and 2018. Prepared the project O&M Manual and provided owner training and annual inspection activates since 2004. Remain as Rome City's on-call engineer with respect to dam safety and inspection.

Ash Reservoir Dam Modification, AEP, Cheshire, OH. As part of the design and permitting work for the closure and capping of a large ash reservoir the 100 ft high dam is being modified by reducing the dam height and providing a new discharge spillway structure for safe discharge of the 100-year and PMF storm flows. Mr. Bodine is the Engineer of Record for the dam modification with construction that is currently under construction and expected to be completed in 2020.

Cardinal FAR 1, AEP, Brilliant, OH. As EOR responsible for Geosyntec design and major permit document preparation for a 127 acre 18 million cubic yards FGD gypsum landfill at a power plant facility in the State of Ohio. Major portion of new landfill is to be constructed over an existing closed fly ash disposal area. Design and permit documents included detailed geotechnical settlement and stability analyses. Agency has completed review and permit was issued in April 2007. Construction of Cell 1 was completed and a minor permit modification to construct Cell 3 before Cell 2 was prepared with agency approval in 2008. Preparation of Cell 3 construction drawings was completed in 2010 and cell construction followed in 2011. Waste filling is ongoing.

Chicago Public Building Commission (PBC), Chicago IL. Provided review of construction documents and prepared report on lessons learned for a new school project that involved construction dewatering, excavation and earth retention that resulted in schedule delay and some foundation redesign. Consulted on means and methods for turning around dewatering and excavation problems. With other Geosyntec team members worked on several other PBC projects related to dewatering, earth retention design and permitting, including one high profile downtown Chicago project. Other PBC projects (library & athletic field house) included preparing and reviewing foundation designs for the architect/engineer and performing foundation inspections.

CSX Talleyrand, CSX, Jacksonville, FL. Served as senior reviewer and in-house barrier wall consultant for design and construction of a Florida landfill slurry wall approximate 43 feet in depth. Designed and summarized the slurry wall compatibility and mix design testing program and trained others on the design and onsite for the slurry wall quality control/quality assurance testing and inspection. Site is unique because of high groundwater adjacent to a river, adjacent to a major city sewer line, and included a large portion of excavation within peat soils. Wall was completed in summer of 2011 and landfill cap late in 2011.

CSX Richmond, CSX, Richmond, VA. Serving as senior reviewer and in-house consultant on slurry design and permitting for 40 ft deep soil-bentonite wall at a former

wood treating facility in Richmond, Virginia. Project design and review by the US EPA and VA DEQ is final. The slurry wall construction was started and completed in 2014.

Former Camilla Wood Preserving Site, Black & Veatch, Camilla, GA. Providing barrier wall consulting and in-house recommendations for design team on slurry wall compatibility testing and response to US EPA questions. Conventional soil-bentonite wall was selected and wall construction completed in 2013.

O'Hare Airport Stormwater Flood Control Reservoir, AOR, City of Chicago, IL. Provided technical review of existing reservoir design by others during construction to assist in solving design/construction problem involving slope seepage and erosion. Geosyntec provided recommendations for design changes and repairs, as well as additional monitoring to prevent slope erosion and reduce uplift pressures to acceptable factors of safety.

O'Hare Airport Stormwater Damage Mitigation Measures, CARE, Chicago Department of Aviation, Chicago, IL. Technical lead providing investigation, evaluation and corrective measure design of stormwater related seepage damage to an underground training area located adjacent to an existing airport utility tunnel. Designed concrete retaining wall repairs and preventative measures to collect and transfer excessive groundwater during and immediately after stormwater events from causing future similar problems.

Rt 44 Barrier Wall, Tauton, MA. Served as in-house consultant for an 800-foot long, 50-foot deep slurry wall installed to contain contaminates present in the saturated portion of the soil. Barrier wall was part of an overall drum removal and thermal desorption project. Provided onsite monitoring and training of others for the slurry wall quality control/quality assurance testing and inspection. Wall was completed in 2010.

McColl Superfund Site, CA**.** Served as in-house consultant and mentor for the field monitoring and site engineering of the slurry wall construction phase. Provided daily contact as needed for the two soil-bentonite slurry walls that transverse sloping topography and were tied into the final cover system.

Home Depot Site Redevelopment, Burbank, CA**.** Geosyntec provided concept and detail design, construction, operation, maintenance and monitoring of site remediation of a dual-phase extraction (DPE) and soil vapor extraction (SVE) systems at a redevelopment site. Part of the design included a 2,600 ft long, 55 ft deep soil-bentonite slurry wall. Mr. Bodine consulted on the design and led the construction quality assurance monitoring and testing of the barrier wall.

138th Street Landfill. Land And Lakes, Dalton, IL. Performed full time Resident Engineering and Construction Management for landfill client on an IEPA remedial action project located on the southeast side of Chicago. Project involved earthwork, slurry wall and leachate collection and transfer systems installation. Duties included

review of project submittals, contractor invoices, CQA activities, preparation of progress reports, design modifications approved by the designer and preparation of the Construction Completion Report. Construction project was brought-in under budget.

Historical Slurry Wall Design & CQA. Provided full-time construction quality assurance activities for landfills and cooling lakes with slurry and grout cutoff walls, including preparing summary CQA reports. Cutoffs have performed exceptionally well, some for over 40 years. Slurry wall experience includes shallow and deep Soil Bentonite and Cement Bentonite walls, specification preparation, and full time CQA/CQC activities for approximately 1.5 million square feet of wall. Recent projects involved environmental remediation and closure at landfill and disposal projects where construction dewatering, containment and site closure were involved. Another involved slurry wall design and specifications for groundwater and flood control for a 4-lane state highway project with railroad and river overpass crossings. Total slurry wall experience involves walls totaling over 25 miles long. Completed local Midwest projects with deep walls (>50 ft and <130 ft) include Schaefer Power Station in Indiana and Braidwood Nuclear Power Station in Illinois and the Bofors Nobel project mentioned above. Projects with medium depth cutoff walls (>30 ft and <50 ft) include Collins Power Station in Illinois and Amoco Oil (now BP) Refinery in Indiana. The Amoco walls (4 total) involved cement bentonite, jet grout and chemical grout barriers. Specification and CQA monitoring review for soil bentonite walls was also performed for the McColl Superfund project and a Home Depot project in California. Two of the recent slurry walls have been design/build projects where Mr. Bodine, in addition to design and project management activities, supervised the QC/QA work and certified the construction. The Amoco project is discussed in a paper listed at the end of this resume. Copy provided upon request.

Groundwater Remediation System CM and CQA, Shell, Kankakee, Il. Provided design and construction bid document and specification review for a bedrock groundwater interceptor trench and surface water collection basin and controls. Performed CM and CQA activities at the site and prepared a project construction certification report. Reviewed all contractor draft invoices and assisted client negotiating settlement of work claims and revised contract when project changed from non-union to union labor and operator work. Project was successfully completed and performing as intended.

Naval Training Center and Power Plant Site, TN & Associates, Newport, RI. Mr. Bodine has prepared designs, plans, specifications, and monitored installation and testing for numerous pile and drilled shaft construction projects. Most current pile installation and load test monitoring occurred in 2006 at Newport Navel Training Facility in Newport Rhode Island. Selected, monitored and evaluated dynamic pile testing and static load test at site of Fuel Oil Tank No. 2. Pile testing was successful and exceeded design requirements.

DOE Fernald Onsite Disposal Facility, Flour, Fernald, OH. Performed duties as responsible onsite Resident Engineer for construction of the leachate conveyance system and two onsite disposal facility (OSDF) cells at DOE's Fernald Environmental Management Project, located near Cincinnati, Ohio. Systems included structural, geotechnical, mechanical, electrical and environmental equipment. Duties included review of contractor submittals, preparation, review and approval of design modifications, preparation of reports, interaction with client and contractor construction management, engineering and quality assurance personnel and project's CQC staff. Cell 1 began accepting impacted material in 1997. During 1998 Mr. Bodine performed the duties of Geosyntec's onsite Managing Engineer and Certifying Engineer during which time filling of Cell 1 with low level impacted materials and construction of Cell 2 was completed. All 8 Cells of the OSDF were completed by end of 2006 ahead of schedule.

Willow Ranch Landfill Retaining Wall, Land And Lakes, Romeoville, IL. Provided Construction Management assistance and Construction Quality Assurance monitoring and Engineering Certification of the installation of a geogrid tieback concrete retaining wall located at a closed landfill site. The wall consists of 700 lineal feet of panels with 3 and 4 stepped levels, constructed at a 7 percent alignment grade. One hundred and seven (107) concrete panels twenty-foot long were formed, constructed and installed on site. Construction submittals, schedules and testing for concrete and soils was provided.

Elgin Illinois Landfill Closure, BFI, Elgin, IL. Managed CQA monitoring and provided CQA certification of Closure of Elgin Landfill Superfund Site located in Kane County, Illinois. Closure design by US Army Corps of Engineers (US ACE) involved a soil and geosynthetic cap. Project fieldwork completed end of Nov. 2001 and the remedial construction completion report (RCCR) prepared in Dec. 2001. The US EPA and Corps without comment approved the RCCR. For the same landfill closure Mr. Bodine prepared the Operation and Maintenance Plan that involved normal landfill maintenance, long term groundwater monitoring and operation of the landfill gas management system.

City of Janesville Wisconsin Landfill, Provided management of project consisting of the review and evaluation of a poorly performing landfill gas system, and the design of a new dual well gas/leachate collection system. Services included field measurements, preparation of landfill permit modification and construction bid documents with contract requirements, specifications and drawings. Project began in May 2002 with construction of the new dual well collection system completed in December 2002.

Permits. Responsible for preparation and certification of NPDES permits, Construction permits, Joint permits, Dam safety permits, stormwater permits and plans, local permits and other agency documents for flood control projects, wastewater treatment facilities, landfills and various site remediation projects. Selected completed projects include the

Meacham Grove Dam and Reservoir Flood Control Project in DuPage County Illinois and permitting activities for BASF, Amoco Chemical and Exxon Chemical.

Boston Tunnel Construction Claim, CAT, Boston MA. Provided expert witness support for major geotechnical construction claim. Work consisted of technical assessment of contractor claims for extra compensation for excavation of Central Artery Tunnel. Mr. Bodine was a key member of the assessment team that resulted in full rejection of the $25 million claim against the CA/T project.

Scottsville Landfill Construction Claim, Scottsville, MI**.** Provided technical assessment of construction claim for new landfill construction in the State of Michigan. Assessment resulted in nearly full rejection of contractor claim for 2 to 4 million of extra compensation for earthwork construction and schedule extension.

Unloading Dock Construction Claim, Honduras. Performed independent review of geotechnical foundation investigation and design for pile foundation for arbitration hearings concerning significant design-build cost extras for a large docking facility located in Central America.

Power Plant Circulating Water Pipe Evaluations, NW IN**.** Provided confidential evaluation of two large 14-ft diameter CMP pipe collapses for an AE designer and assisted field sampling and evaluation of two other power plant CMPs for long term integrity condition evaluations.

Foundation Site Investigation and Geotechnical Design. During the 1970's and 1980's coordinated site investigation and geotechnical foundation design of power plant and waste disposal structures for several fossil units between 500 MW to 750 MW in size located in the Midwest and South. Foundation and pond design included shallow and deep foundations (piles, caissons and drilled shafts) and water and waste holding ponds and dikes. The deep foundations were subject to a large range of loading conditions and conducting several large-scale load tests where necessary. One major project located along the Mississippi River in Louisiana is discussed in a paper listed at the end of this resume. Projects specific to Illinois and Indiana included those at several plants designed by Sargent & Lundy during the period.

Safety Analysis Report Preparation. Supervised and prepared geotechnical foundation design criteria and geotechnical and groundwater sections of safety analysis reports (SARs) for nuclear power plants located in Illinois, Indiana, and South Korea.

Cooling Lake and Dam Inspections. Conducted cooling lake and dam inspection and monitoring activities for lakes up to 3000 acres in size and over 25 miles of embankment dikes or dams. Prepared reports for submittal to client and appropriate state and federal agencies. The largest of these projects (Braidwood Nuclear Power Station Cooling Lake) involved dike construction and cutoffs constructed over and through extensive coal strip-mine spoils and over underground coal mines. Site

monitoring included settlement monitoring of pre-load and dike fills over strip-mine spoils up to 120 ft thick, slope indicator movements, piezometer measurements and sampling for seepage and water quality evaluations.

SWMU's at Argonne National Lab, Illinois. Performed Visual Site Inspections and Structural Integrity Assessments for a large number of Solid Waste Management Units (SWMUs) at DOE's Argonne National Laboratory-East as part of a corrective action program under RCRA. Performed duties as the Certifying Professional Engineer.

PROFESSIONAL EXPERIENCE

Geosyntec Consultants, Chicago/Oak Brook, IL, June 1996-Present
Woodward-Clyde Consultants, Chicago, IL, March 1989-June 1996
Sargent & Lundy Engineers, Chicago, IL, 1976-1989
Woodward-Clyde Consultants, Clifton, NJ, 1970-1972, Chicago IL, 1973-1976

PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers - Life Member - Geo-Institute

Illinois Society of Professional Engineers (ISPE)

Deep Foundation Institute (DFI)

Three Rivers Manufacturing Association (Industry Association)

REPRESENTATIVE PUBLICATIONS

"Implementation of a Permeable Reactive Barrier for Treatment of Groundwater Impacted by Strontium-90", Andrzej Przepiora, Dan Bodine, Peter Dollar and Jim Coughlin, *The 19th Pacific Basin Nuclear Conference (PBNC 2014*), August 24-28, 2014, Vancouver, Canada.

"Analysis and Verification of Louisiana Pile Foundation Design Based on Pressuremeter Results", D.G. Bodine and R. R. Davidson, in *The Pressuremeter and Its Marine Applications*: American Society for Testing and Materials, 1986.

"Effects of Clay Swelling on Permeability Calculations Obtained From Sealed Double Ring Infiltrometer Tests", C. B. Avci, D. G. Bodine and E. Guler, in *The First International Congress on Environmental Geotechnics,* Edmonton, Canada; July 10-15, 1994.

"RCRA Closure of Refinery Sludge Basin Using In-situ Solidification and Containment", D. G. Bodine and F. M. Trevino, in *The Proceedings of The Fourth Great Lakes Geotechnical/Geoenvironmental Conference: In-Situ Remediation of Contaminated Sites*, Krishna R. Reddy, Editor, University of Illinois at Chicago; May 17, 1996. Containment was by cement bentonite slurry wall and cement bentonite jet

grout wall on the shore of Lake Michigan.

"Design and Permitting of a FGD Landfill Over and Existing Ash Reservoir" (2009), D. G. Bodine, B. F. Tanyu, P. J. Sabatini, M. A. Ajlouni and D. E. Limes, Geotechnical Special Publication No. 187, Contemporary Topics in Ground Modification, Problem Soils, and Geo-Support, pp. 496-503.

"Case Study: Stability of Two Horizontal to One Vertical Embankment" (2011), Tanyu, B. F., Neal, W., Seymour, J. P., Bodine, D. G, Bozok, O., Paper presented at the ASCE Geo-Frontiers March, 2011, Dallas, Texas.

APPENDIX B

Range Road Landfill Annual Inspection Log

Range Road Landfill Annual Inspection Photographs

Detroit Edison Company
Range Road Ash Disposal Facility
Annual Inspection Log

Inspector: Dan Bodine, P.E., Geosyntec
DTE: Jason Roggenbuck Provided Documents and Accompanied Field Inspection
Date: 19 April 2021, 7:00-1 pm

Weather: Partly Sunny to Sunny
Temperature 50°-65 F, Light Wind

Previous P.E. Annual Inspection Date: 18 May 2020

Item	Condition			Related Photo # (s)	Notes and Comments (LDP=Landfill Development Plan)
	Good	Adequate	CA Req.		
General Site					
1. Site Access Restricted / Attendant On-duty	☒	☐	☐	Visitor Sign in	Gates locked, except active ash haul road entrance near Guard. Additional security and health checks at Plant Gate Check-In.
2. Security Fence / Gates	☒	☐	☐	Gates 10 & 22	Good. Main Gate not shown, but Manned Guard Shack Across Street. Landfill Gate lockable. All Other Gates had Signs & Locked.
3. Signs and Markers	☒	☐	☐	10,22, 41, 42	Signs/markers were present at most gates and entrance. Road edge markers shown in Photos 41 & 42.
4. Access Roads and Construction Site Roads	☒	☐	☐	11, 21, 41, 47 & 48	All very good. Inspection road at curve had some inside curve rutting. Recent rains were also noted. No access problems.
5. Traffic Flow and Waste Unloading	☒	☐	☐	44	Haul trucks operating and unloading Safely
6. AST Inspection	☒	☐	☐	48	Appeared Good. One of the two tanks has been removed.
7. Universal Waste (properly labelled, container condition, less than one (1) year from accumulation start date)	☐	☐	☐	None provided	Sources noted in previous documents reviewed.
Waste and Nuisance Control					
8. Ash Hauling Contractor On-site Safety/Training	☐	☐	☐	None provided	Contractor Site Office closed. DTE indicated no new personnel.
9. Ash Hauling Contractor Equipment Condition/Adequacy	☒	☐	☐	44	Equipment appeared acceptable but were not inspected closely as part of our requirements. No inspection documents provided.
10. Ash Hauling Contractor Filling Active Area to Appropriate Grade	☒	☐	☐	37, 38 & 44	Visual observations indicated Contractor filling activity acceptable.
11. Waste Condition (i.e. - waste from approved source, no recyclables, no MSW, no liquids, no hazardous wastes, etc.)	☒	☐	☐	38 & 44	Waste being delivered appeared acceptable and from approved source as indicated by DTE Inspector.
12. Noise Level	☒	☐	☐		Covered in LDP. No Contractor noise noted at perimeter areas within Landfill during Inspection.

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13. Dust Control	☒	☐	☐		Dust Control Plan and Annual Reports available. No complaints and no action needed. November 2020 Annual Report Reviewed.
14. Adequacy of Interim Cover and Interim Stockpile Cover	☐	☒	☐	31, 32, 37, 38	Interim cover area slopes joining or within active areas appeared stable. Interim Clay Stockpile Cover well vegetated.
Final Cover					
15. Landfill Side Slope Condition (i.e.-no seeps, no cracking, no settling, no burrows, adequate vegetation)	☐	☒	☐	29, 34, 35, 47, 51, & 27 & 28	Trees on N, NE, NW sides approved to stay and did not appear to cause any observable stability problems. Small Trees and brush previously noted in past annual reports have been cut. Temporary slope of active G2 area shown in Photos 32, 34 & 35 appeared stable but not vegetated. Little runon erosion shown in 34. Downchute on slope where soil erosion beneath riprap continuing shown in Photos 27 and 28.
16. Final Cover Top Condition	☒	☐	☐	39, 40, 49, 50, 51, 52, 53, & 54	Top and slope final cover areas were well vegetated. No observed settlement or stability conditions. Relatively flat cover designs require swales to direct potential flows to downchutes.
Leachate and Surface Water Control					
17. Stormwater Detention Pond Water Quality (unnatural films, foams, oils, etc.) and pump operating condition (panel, meter etc)	☒	☐	☐	3	Quality appeared good. Pumps not running at time of inspection but panel lights not on and no pumps tagged for out of service.
18. Stormwater Detention Pond Side Slope Condition (erosion, riprap, vegetation) and any other operating observations not in 17 above.	☒	☐	☐	1, 2 & 4	Appeared stable and adequately vegetated & protected. WL also monitored with staff gauge, SG-13.
19. NW Corner Lift Station Surface Water Ditch Level & Pump	☒	☐	☐	23, 24 & 25	New pumps & sump level controls were installed in late 2017. Pumps and switches were checked (DTE person) and all appeared operating correctly. Pump 1 running at time of photo and run light was on.

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20. NW Corner Lift Station Operating Condition	☒	☐	☐	24	See also Item 19 above.
21. NE Off-site French Drain Operating Condition	☐	☐	☐	No Photo	Control building locked and DTE Inspector did not have key.
22. NW Off-site French Drain Operating Condition	☐	☐	☐		Offsite, not Inspected; Covered in TRC reports. Items 19 & 20 discusses lift station and pump conditions.
23. NE/NW Off-site French Drain Outfall Water Quality	☐	☐	☐		Not part of this CCR inspection. Covered in other reports.
24. Perimeter Slurry Wall Marker Condition	☒	☐	☐	22	Slurry wall below Grade and Surrounds Entire Landfill at/near Property Line. Barrier to any below grade GW Flow. Markers show Alignment. Many markers remain however some may have been removed for road upgrades. Slurry Wall as-built location are reported in several reports and on file in DTE office.
25. Perimeter Ditch System (Flow & Staff Gauge Monitoring)	☒	☐	☐	4, 6, 8, 12, 13, 14, 15, 16, 17, 18 & 26	Some flow observed and one or two videos taken. Spring and summer staff gauge elevations in report summary tables and figures were provided for review by DTE. Review indicated acceptable flow directions with one gauge (SG-11) possibly needing elevation stake replacement. Visual observations of ditch flow conditions appeared good.
26. Perimeter Ditch System (Slope & Bottom Conditions); Includes Internal Ditch if a Main Discharge to Perimeter Ditch	☒	☐	☐	5, 6, 8, 9, 11, 12, 13, 14, 19, 20, 33, 34, 41, 42, 43, 45 & 46	Perimeter ditch located around entire active and closed landfill areas. Major internal ditches also drain to perimeter ditch. Runoff from landfill and runoff from the site is controlled by the ditch system and perimeter slurry wall. Flow appears to be maintained. DTE Indicates that non-woody vegetation has been approved to remain as long as flow maintained. DTE maintenance is being provided and performed on an as-needed basis. Internal ponds also shown in these and other photos attached.

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DTE Electric Company Range Road Landfill Annual Inspection 19 April 2021

1. Storm Water Detention Basin (SDB), S & W Sides. Slopes are Protected with Stone. No Visible Slope Erosion on All Sides. Same for N & E Sides.

2. Intake Screens at SDB with Some Vegetation at Bottom. Water from Basin is Pumped Back to Power Plant Using One or More of 3 Pumps.

3. Pump Control Panel. All 3 Pumps were Available for Use. Wall Flow Meter (Not Shown) appeared OK. Pumps were Observed but not Pumping at the Time.

4. Looking at NE Corner of SDB. Slope Protected from Erosion with Stone. Staff Gauge SG-13 in Middle of Photo at or Just Above the Water.

APPENDIX B
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5. Ditch Maintenance Along One Side where Access from Road Easiest.

6. Again Ditch Maintenance Along One Side or the Other. Flow Maintained. Staff Gauge SG-7 Shown.

7. Monitoring Well 16-03. Well Protected and Cap Locked. Well Protection and Capping Typical of Inspected Above Ground Monitoring Wells.

8. Perimeter Ditch Culvert and Staff Gauge SG-5. Culvert Entrance Open for Flow.

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9. View of Location of Discharge of East Side Groundwater System into the Landfill Perimeter Ditch.

10. Side View of Locked Gate with Signage. All Gates observed had Signage and were Locked.

11. Looking at Perimeter Ditch where Recent Maintenance Performed. Ditch Flow Observed.

12. Looking at Ditch and Staff Gauge SG-03. Ditch Flow Observed.

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13. Looking at Location of Staff Gauge SG-02. Water Present. No Visible Flow Noted.

14. Looking at Ditch Alignment Approximately 200 ft Further Upstream than in Photo 13. Ditch Clear Except for Small Soil Run-in from Slope.

15. Looking at Location of Staff Gauge SG-12. Water Present and Slight Flow Noted.

16. 2018 Photo of Staff Gauge SG-10 Prior to Ditch Cleaning Occurring in 2019 and/or 2020.

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17. Looking at Location of Staff Gauge SG-01. Water Present. No Visible Flow Noted.

18. Looking at Portion of Perimeter Ditch Alignment Cleared of Vegetation Last March. Little Flow Noted.

19. Another View of Portion of Perimeter Ditch Cleared of Vegetation During Routine Maintenance Activity. Culvert Open and Clear of Vegetation.

20. Culvert and Riprap Downslope Where Ditch Clearing of Vegetation Had Not Recently Occurred. Flow did not Appear to be Blocked.

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21. Perimeter Road and GW Monitoring Well 16-06. Well Protected and Locked. Unusual Rutting from Maintenance Equipment Used as Part of Ditch Cleaning.

22. Property Fence and Locked Gate Along NW Corner of Landfill and King Road. Signage Present. One Slurry Wall Marker (Red Tip) Shown.

23. Manhole Containing Discharge Piping from Sump Pumps at Location Shown in Photo 24. Discharge will be to Culvert Connected to Ditch.

24. Sump Where 2 New Pumps Installed 2018. Pump #2 Operation Verified. Pump #1 Tripped and Scheduled for Maintenance.

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25. View Inside Pump Manhole During 2020 Inspection (No Photo for 2021; Manhole Observed. Offsite Flow into Manhole. One Running Kept up to Flow.

26. Perimeter Ditch West Side at Location of Staff Gauge SG-09. No Blockage but No Staff Gauge Location Number Visible.

27. Inspection of Riprap Down Drain with Surface Net. Visual Voids Between and Below Riprap Suitable for Filtering in Small Size Stone, per DTE.

28. Photo Showing Large Void Between Riprap that can be Filled with Smaller Size Stone. Alternative Maintenance Methods are Possible.

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29.View of South Side of Active Disposal Area Slopes. Photo Taken from Outside of Active G2 Area Along the West Side Existing Berms.

30. Western Side of Area G2 that is Not Yet Developed for Use.

31. View of Top of Area G2 that has been Graded and Nearing Ready to be Capped in accordance with Landfill Cover Design. CCR Partially Cemented.

32. Temporary Slope of CCR Placement Southwestern Side.

33. Older Internal Drainage Ditch within Landfill Draining to the Perimeter Collection Ditch.

34. Temporary CCR Slope in Area G2 Along South Side. Toe Ditch Installed to Collect Directed Runoff. Slope Appears Stable and Well Graded.

35. Active CCR Slope with Grading InProgress. Area G2.

36. Active Area G2 CCR Surface. Similar Location as in Photo 31.

37. Another View of Graded Landfill CCR Sloped Surface. Area G2.

38. Another View of Graded Landfill CCR Sloped Surface.

39. Area F3 Cap with a Temporary Pile of Large Stones.

40. View of Typical Closed Area Top of Landfill

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41. Internal Drainage Ditch Located South of Active Area G2

42. Perimeter Ditch Looking West Along South Side Near Puttygut Road.

43. Perimeter Ditch Looking East.

44. CCR Haul Trucks Safely Unloading What from a Distance Appears to be Bottom Ash and/or Fly Ash.

45. Runoff Collection Pond within Landfill Limits. Landfill Area Slopes Appeared Stable and Well Vegetated.

46. Another View of Runoff Collection Pond and Landfill Slope South of Pond. Slope Appeared Well Vegetated and Stable.

47. View of Active Haul Road to Top of Landfill Near Area F3D3. Slope Shown Part of Active Area F3. Minor Rutting in Road Surface.

48. View of Single Fuel Tank and Enclosure Protection. Second Tank had been Removed and May No Longer be Needed.

49. View of Typical Top of Landfill in Closed Area B. Small Brush was Cut During the 2018-2019 Construction Season.

50. Another View of Typical Top of Landfill in Closed Areas. Area B.

51. Outside Perimeter Slope Along Closed Area F1. Slope Appeared Stable and Well Vegetated.

52. Inlet Side of Downslope Drainpipe with Small Riprap Grading to Prevent Gully Erosion.

	
53. Typical Top of Landfill in Historically Closed Areas. Well Vegetated with Occasional Brush Growth, as Shown in Distance.	54. Another View of Top of Landfill, Likely Closed Areas B and A. Some Minor Small Brush Noted, but Tops of Closed Areas were Well Vegetated.

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